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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application: Maass, et al.
Serial No.: 10/023,444
Filed: 12/13/2001
Group Art Unit: 3634
Examiner: Strimbu, Gregory J.
For: BARE CABLE ARRANGEMENT ASSEMBLY

M/S After Final
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Dear Sir:

Appellant submits this Appeal Brief pursuant to the Notice of Appeal filed August 15, 2005. Enclosed is a check for the appeal brief fee. Any additional fees or credits may be charged or applied to Deposit Account No. 50-1482 in the name of Carlson, Gaskey & Olds.

REAL PARTY IN INTEREST

The real party in interest is Meritor Light Vehicle Systems - France, assignee of the present invention.

RELATED APPEALS AND INTERFERENCES

There are no prior or pending appeals, interferences or judicial proceedings related to this appeal, or which may directly affect or may be directly affected by, or have a bearing on, the Board's decision in this appeal.

STATUS OF CLAIMS

Claims 20-33 and 38-40 are pending, rejected, and appealed. Claims 34-37 are withdrawn and claims 1-19 have been cancelled.

STATUS OF AMENDMENTS

All amendments have been entered.

SUMMARY OF CLAIMED SUBJECT MATTER

The subject invention relates to a window regulator assembly for use in a vehicle. Figures 1 and 2 show a door 30 that is assembled from various components including a door inner panel 31, a window regulator assembly 34, a combined anti intrusion beam and waist reinforcement beam component 36, and a door outer panel 38. The door outer panel 38 and door inner panel 31 together define a void within the door, which is known as the "wet" side of the door. See paragraph [19], page 3, lines 17-21.

The window regulator assembly 34, the components of which are shown in Figure 2, is assembled as a subassembly that is assembled towards an outer face 40 of the door inner panel

31 in the direction of arrow A. See paragraph [21], page 3, line 30; page 4, lines 1-2. The window regulator assembly 34 includes a carrier 1 that is provided as a chassis or frame on which is mounted further components of the window regulator assembly 34. The carrier 1 is in the form of a pressing and includes an 'X' shaped portion having arms 52A, 52B, 52C and 52D which meet at a central region 53. Ends of arms 52A and 52B remote from central region 53 are connected by a substantially vertical portion 54 of the carrier 1. Similarly, ends of arms 52C and 52D remote from the central region 53 are also connected by a substantially vertical portion 55. See paragraph [22], page 4, lines 8-10. The arms 52A, 52B, 52C and 52D are all generally elongate and U shaped in cross section as a result of the pressing process as shown by cross-section 200 in Figure 8. See paragraph [23], page 4, lines 11-12.

Carrier 1 further includes holes 57 for mounting of cable guides in the form of pulley wheels 4 via rivets 5. See paragraph [25], page 4, lines 15-16. Furthermore, it can be seen that all four cable guides are outside of the boundaries defined by seal 15. See paragraph [29], page 4, lines 30-31. The four pulley wheels 4 are identified in Figure 2 as a first upper (1U), a first lower (1L), a second upper (2U) and a second lower (2L). See paragraph [41], page 5, lines 20-21.

Carrier 1 further includes a mounting plate 225 upon which is mounted flexible latch support 18. Latch assembly 20 is mounted on flexible latch support 18, which allows for slight adjustment in the position of latch assembly 20 relative to carrier 1 when the window regulator assembly is assembled into the door inner panel. See paragraphs [26] and [35], page 4, line 17; page 5, lines 7-9.

Carrier 1 also includes a mounting plate 58 upon which is mounted inner release handle assembly 19. Carrier 1 also includes a window regulator drive plate in the form of a motor plate 59, which includes a cable drum housing 60. See paragraphs [26] and [30], page 4, lines 18-19; page 4, line 32. The motor plate 59 is generally planar in shape and is larger than a door aperture 46 so that a seal 15 can provide for a moisture barrier between the interior of the door and the interior of the vehicle. See paragraph [27], page 4, lines 20-22.

Seal 15 is a parametric seal, i.e. a perimeter like seal, which defines a boundary that is of similar shape to but slightly larger than the edge of door aperture 46, and also is of similar shape to but slightly smaller than edge 204, a sealing surface, of motor plate 59. When assembled, the seal 15 sits on the wet side of door inner panel 31 but on the dry side of motor plate 59 on edge 204 on first face 101 of carrier 1 as shown in Figure 2. See paragraph [28], page 4, lines 23-27.

A front rail 2 and a rear rail 3 are mountable on second face 103 of carrier 1 in spaced generally parallel relationship on portions 55 and 54 of carrier 1, respectively, and front cursor 13 and rear cursor 14. See paragraph [31], page 5, lines 1-2.

A bare cable assembly 62 includes a lower cable 11 that connects cable drum 8 to the front cursor 13, an upper cable 10 that connects the cable drum 8 to the rear cursor 14, and an intermediate cable 12 that connects the front cursor 13 to the rear cursor 14. See paragraph [42], page 5, lines 22-25. The cable drum 8 is mounted on bushing 9, and is in driving connection with motor 16. See paragraph [46], page 5, line 32. Rotation of the cable drum 8 by the motor in one direction will cause lower cable 11 to be wound onto the cable drum 8 and upper cable 10 wound off the cable drum 8 causing cursors 13 and 14 and hence the window to lower. See

paragraph [47], page 6, lines 1-3. Conversely, rotation of the cable drum 8 in the opposite direction by the motor will cause upper cable 10 to be wound onto the cable drum 8 and lower cable 11 to be wound off the cable drum 8 resulting in raising of the window glass 25. See paragraph [48], page 6, lines 4-6.

The upper cable 10, lower cable 11 and intermediate cable 12 define a cable path that runs between the various pulley wheels 1U, 2U, 1L, 2L, and includes a first cable path portion connecting the first upper cable guide to the first lower cable guide, a second cable path portion connecting the second upper cable guide to the second lower cable guide, a first further cable path portion connecting the first upper cable guide to the second lower cable guide and a second further cable path portion connecting the first lower cable guide to the second upper cable guide. See paragraph [49], page 6, lines 7-13.

The first and second cable path portions are substantially vertical and are substantially parallel to the front and rear rails 2 and 3 which define the direction of vertical movement of the window glass 25. The first further cable path portion and second further cable path portion together form an 'X' shape. The second further cable path portion is defined by the portion of the lower cable 11 running between the first lower cable guide and the cable drum 8 (but not around the drum) in combination with that portion of the upper cable 10 running between the second upper cable guide and the cable drum 8 (though not around the cable drum 8). See paragraph [49], page 6, lines 13-20.

In view of the motor plate 59 and seal 15, the window regulator motor 16 is on the 'dry' side of the door since any moisture or rain entering the lower portion 43 of the door via the outer

waist line seal 73 is prevented from progressing through door aperture 46 by seal 15. See paragraph [63], page 8, lines 1-4.

Independent claim 20 is directed to a cable arrangement assembly for a vehicle that includes a carrier for a cable that has a first side and a second side opposed thereto, and has a first elongate member and a second elongate member where the first elongate member is transverse to the second elongate member. See paragraphs [22] and [23], page 4, lines 3-12. Claim 20 also recites a first cable guide and a second cable guide that are mounted to the first elongate member, and a third cable guide and a fourth cable guide that are mounted to the second elongate member. See paragraph [25], page 4, lines 15-16. Claim 20 also recites a first guide rail spaced generally parallel to a second guide rail where the first and second guide rails are mountable to the carrier on the first side to guide a window. See paragraph [31], page 5, lines 1-2. Finally, claim 20 recites that the carrier has a plate that mounts a drive for the window, the drive being mounted to the second side of the carrier, and the plate having a seal. See paragraphs [26], [27], and [30], page 4, lines 17-22; page 4, line 32.

Independent claim 38 is directed to a vehicle door module comprising an inner door panel having a window frame where the inner door panel has an interior side for facing an interior of a vehicle and an exterior side for facing an exterior of the vehicle. See paragraph [19], page 3, lines 16-21. The door module also includes a carrier for a cable for supporting a window in the window frame where the carrier has a first elongate member and a second elongate member, the first elongate member being transverse to the second elongate member. See paragraphs [22] and [23], page 4, lines 3-12. Claim 38 also recites a first cable guide and a second cable guide that

are mounted to the first elongate member, and a third cable guide and a fourth cable guide that are mounted to the second elongate member. See paragraph [25], page 4, lines 15-16. Claim 38 also recites a first guide rail spaced generally parallel to a second guide rail where the first and second guide rails are mountable to the carrier on the first side to guide a window. See paragraph [31], page 5, lines 1-2. Finally, claim 38 recites that the carrier has a plate that mounts a drive for the window, the drive being mounted to the second side of the carrier, and the plate having a seal that is spaced between the carrier and the exterior side of the inner door panel. See paragraphs [26], [27], and [30], page 4, lines 17-22; page 4, line 32.

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

A. Claims 39 and 40 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite.

B. Claims 20-28, 32, 33, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,820,370 to Marscholl in view of US Patent No. 4,503,732 to Schust.

C. Claims 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,820,370 to Marscholl in view of US Patent No. 4,503,732 to Schust and further in view of WO 00/53446 (WO '446).

D. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,820,370 to Marscholl in view of US Patent No. 4,503,732 to Schust and further in view of US Patent No. 5,033,236 to Szerdahelyi et al.

E. Claims 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 4,800,436 to Herringshaw et al. in view of US Patent No. 6,430,873 to Borchuk et al. and further in view of US Patent No. 5,857,732 to Ritchie.

ARGUMENT

A. 35 U.S.C. 112, Second Paragraph Rejection

Claims 39-40 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite. Appellant has amended these claims in response to the final rejection. The amendment was filed on July 11, 2005 and was entered by the examiner. As the examiner has entered the amendment, appellant assumes that this rejection has now been overcome, and respectfully requests such confirmation in the Examiner's Answer.

B. Obviousness Rejection of Marscholl in view of Schust

The Examiner has rejected claims 20-28, 32, 33 and 40 under 35 U.S.C. §103(a) as being unpatentable over Marscholl in view of Schust.

Claims 20-22, 24-28, and 32

Claim 20 recites that the carrier has a plate that mounts a drive for the window where the drive is mounted to the second side of the carrier, and wherein the plate has a seal. The examiner admits that Marscholl does not disclose the use of a seal. Final Office Action dated May 1, 2005, p.3. The examiner relies on Schust to teach the use of a seal, and argues that it would have been obvious to provide Marscholl with a drive as taught by Schust to prevent water from penetrating

into the drive. Appellant respectfully disagrees, as there is no motivation or suggestion to modify Marscholl in the manner suggested by the examiner.

Marscholl discloses a mounting structure 2 with four rollers (10, 10'), a cable 8, drive motor 4, and two (2) guides 6, 7. The drive motor 4 is a sealed unit mounted on the wet side of the door inner panel. Consequently, there is no need for sealing around a plate for the drive. Further, there is no motivation to replace the drive of Marscholl with the drive of Schust because there is no benefit to do so.

The examiner has pointed to no teaching in Schust of any particular benefit to using the Schust drive motor in place of the Marscholl motor. In addition, there is nothing in Marscholl that would have led one of ordinary skill in the art to believe that Marscholl's motor was in any way deficient for Marscholl's purposes or was in need of modification. Further, one would not look to the particular sealing coverage of Schust because Marscholl expresses no need for such a sealing arrangement. Even if one of ordinary skill looked to Schust, they would only be taught a way of providing a seal between the drive and a cable drum, not a seal on the plate mounting the drive. One of ordinary skill in the art would have found no reason, suggestion, or incentive for attempting to combine these references so as to arrive at the subject matter of claim 20 other than through the luxury of hindsight accorded one who first viewed appellant's disclosure.

Further, even if sufficient motivation could be found, the references do not disclose, suggest, or teach the features of claim 20. Claim 20 recites that the *carrier* has a plate mounting a drive for the window with the drive being mounted to the second side of the carrier, and with the *plate* having a seal.

The examiner argues that Schust discloses a drive 16 comprising a plate 60 where the plate has a seal 136. First, the plate 60 in Schust is not part of a carrier as defined in appellant's claims. Plate 60 is part of the housing 20 for the cable drum 18. The cable drum 18 is not part of a carrier in Schust. Second, the examiner's "plate 60" in Schust does not have a seal as defined in the claims. The seal 136 in Schust is part of the motor drive 16.

Accordingly, appellant respectfully asserts that the rejection of claims 20-22, 24-28, and 32 under 35 U.S.C. §103(a) as being unpatentable over Marscholl in view of Schust is improper, and requests that the rejection be reversed.

Claim 23

Claim 23 recites that the seal is sized larger than an aperture of an inner door panel for receiving the drive. Schust does not disclose, suggest, or teach this feature.

The seal 136 in Schust is clearly smaller in diameter than the outer housing wall for the motor drive 16. Thus, the seal in Schust cannot be sized larger than an aperture in a door panel through which the motor drive is inserted. Further, there is no discussion in Schust of a relationship between door panel aperture size and any type of seal.

Schust simply does not disclose the features of claim 23, and appellant respectfully requests that the rejection of claim 23 be reversed.

Claim 33

Claim 33 recites that the seal is mounted on the second face of the carrier. Neither Marscholl nor Schust disclosed this particular positioning of the seal on the second face of the carrier as defined in the claim. The seal 136 is clearly contained within the motor drive 16 and is not associated with any type of carrier plate. Further, the examiner has not provided any arguments indicating where this feature is taught.

Schust simply does not disclose the features of claim 33, and appellant respectfully requests that the rejection of claim 33 be reversed.

Claim 40

Claim 40 recites that the seal substantially prevents liquid from passing from the first side to the second side of the carrier about the plate. Again, the references do not disclose this feature.

Schust does not disclose, suggest, or teach any type of relationship between a seal and a plate on a carrier. The seal 136 that the examiner refers to is solely incorporated into the drive motor 16 and is not associated with a carrier and plate as defined in the claim.

As the references do not disclose, suggest, or teach the claimed features, appellant respectfully requests that the rejection of claim 40 be reversed.

C. Obviousness Rejection of Marscholl in view of Schust and WO '446

Claims 29 and 30 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,820,370 to Marscholl in view of US Patent No. 4,503,732 to Schust and further in view of WO 00/53446 (WO '446). For the reasons set forth above in Section B, there is no motivation or suggestion to modify Marscholl with Schust. Also for the reasons set forth above in Section B, the Marscholl and Schust references do not disclose, suggest, or teach appellant's claimed features. WO '446 does not make up for the deficiencies of these references.

Claim 29

Claim 29 recites that the carrier includes a latch mounting plate for mounting a vehicle door latch.

The examiner argues that WO '446 discloses a carrier 14 with a latch mounting plate 70. Appellant disagrees. Latch mounting plate 70 is not part of the carrier plate 14. Latch mounting plate 70 is a custom bracket that is modified to fit different vehicles and door types. Appellant's latch mounting plate is part of the carrier as defined in the claims.

The examiner argues that it would be obvious to modify Marscholl with a latch mounting plate to increase the ease of assembling a vehicle door. There is no support in WO '446 for the examiner's argument. WO '446 teaches away from including the latch mounting plate as part of the carrier because WO '446 provides custom bracket designs. See Page 5, lines 18-20.

Further, an object of Marscholl is to have a compact window lift assembly. See Column 2, lines 13-15. This objective would be defeated by adding more components, such as a latch mounting plate, to the carrier.

Thus, appellant asserts that there is no motivation or suggestion to modify Marscholl with WO '446, and respectfully requests that the rejection be reversed.

Claim 30

Claim 30 recites that the carrier plate includes a door handle mounting plate for mounting a vehicle door handle on the carrier.

The examiner argues that WO '446 discloses a carrier 14 with a door handle mounting plate. Appellant disagrees. There is no disclosure in WO '446 that the carrier includes a door handle mounting plate.

The examiner argues that it would be obvious to modify Marscholl with a door handle mounting plate to increase the ease of assembling a vehicle door, but as discussed above there is no support in WO '446 for the examiner's argument. WO '446 teaches away from providing a carrier with a door handle mounting plate because WO '446 provides custom bracket designs.

Further, an object of Marscholl is to have a compact window lift assembly. See Column 2, lines 13-15. This objective would be defeated by adding more components, such as a door handle mounting plate, to the carrier.

Thus, appellant asserts that there is no motivation or suggestion to modify Marscholl with WO '446, and respectfully requests that the rejection be reversed.

D. Obviousness Rejection of Marscholl in view of Schust and Szerdahelyi

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,820,370 to Marscholl in view of US Patent No. 4,503,732 to Schust and further in view of US Patent No. 5,033,236 to Szerdahelyi et al. For the reasons set forth above in Section B, there is no motivation or suggestion to modify Marscholl with Schust. Also for the reasons set forth above in Section B, the Marscholl and Schust references do not disclose, suggest, or teach appellant's claimed features. Szerdahelyi does not make up for the deficiencies of these references.

Claim 31 recites that at least one of the first elongate member and the second elongate member has a u-shaped cross-section.

The examiner argues that Szerdahelyi teaches an elongate cross member 4 having a U-shaped cross section, referring to Figure 3. Appellant disagrees. Element 4 of Szerdahelyi is not an elongate cross member of a carrier as defined in the claims. Thus, there is no teaching in the recited references of an elongate cross member with a u-shaped cross section.

Further, the examiner argues that one would have motivation to increase the strength of the elongate members of Marscholl with the u-shaped cross section of Szerdahelyi. Nothing in Marscholl indicates that the elongate members of Marscholl have insufficient strength. Further, there is no disclosure in Szerdahelyi that a u-shaped cross section increases strength. Thus, appellant respectfully asserts that there is no motivation or suggestion to modify Marscholl with the teachings of Szerdahelyi. The examiner seems to be engaging in an improper reconstruction

of the claimed invention, using appellant's structure as a template and selecting elements from the references to fill the gaps.

Thus, appellant respectfully requests that the rejection of claim 31 be reversed.

E. Obviousness Rejection of Herringshaw in view of Borchuk and Ritchie

Claims 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 4,800,436 to Herringshaw et al. in view of US Patent No. 6,430,873 to Borchuk et al. and further in view of US Patent No. 5,857,732 to Ritchie.

Claim 38

The Examiner first argues that there is motivation to provide Herringshaw with a cable window regulator as taught by Borchuk to increase the durability of the window regulator. The examiner admits that Herringshaw does not disclose a cable window regulator. Instead, Herringshaw discloses a window regulator comprising a gear sector drive (see Figure 3, for example and, col. 6, lines 5-9). Also, note that Herringshaw discloses a side passenger door that has a side window.

Borchuk, which the examiner uses to modify Herringshaw, discloses a very different type of window regulator configuration. Borchuk discloses a dual drum cable window regulator that is specifically configured for rear windows of minivans and sport utility vehicles where the rear windows "are relatively large in comparison with side windows" See Col. 1, lines 24-25. As discussed in Borchuk, conventional window regulators are not durable enough to lift large glass

panels over the operational life of the vehicle. Heavy duty regulators had been utilized, however, these were not desirable due to the increased weight. See Col. 1, lines 26-34.

Borchuk sought to overcome these problems by providing a dual drum and cable window regulator that was capable of repeatedly lifting and lowering a relatively large panel of glass. See Col. 1, lines 36-40. Thus, Borchuk teaches a drum and cable window regulator that is beneficial for large panels of glass, such as those for rear windows. One of ordinary skill in the art would not be motivated to include the drum and cable window regulator in Herringshaw because there would be no benefit to do so. The window regulator in Herringshaw is used to control movement of a relatively small glass panel for a side window, and thus would not need a design that was capable of moving a larger rear window, such as that taught by Borchuk.

Furthermore, there is no motivation or suggestion to make the modification proposed by the examiner because the proposed modification is not structurally feasible. The particularly shaped carrier 32 disclosed in Herringshaw does not lend it to supporting the dual drum cable drive of Borchuk. The suitability of such a modification is not a question of strength or durability, which the examiner argues is the motivation for the modification (page 6, lines 6-8 of the office action of May 11, 2005). Rather, the lack of suitability stems from the limited vertical dimension of the carrier 32 of Herringshaw. As a result, the carrier 32 is insufficiently high to mount cable guides while still providing a sufficient amount of vertical travel to the window (for cable-type regulators it is this vertical spacing that defines the limits to the window travel).

The examiner further asserts that reinforcement member 210 of Herringshaw could support the upper end of the guide rails of Borchuk in the absence of the carrier at this location. However, the member 210 is not part of the carrier, as defined in the claim.

The examiner further combines Herringshaw and Borchuk with Ritchie in an apparent attempt to meet the claimed limitation of the plate for mounting the drive for the window having a seal spaced between the carrier and the exterior side of the door inner panel. First, the examiner asserts that part of carrier 32 acts as a plate for mounting a drive for the window. The examiner subsequently argues that it would be obvious to look to Ritchie for the seal feature lacking in both Herringshaw and Borchuk.

The examiner argues that Ritchie teaches a seal 70 for attaching components of a door together. First, it should be noted that Ritchie discloses a bead of adhesive 70 (col. 4, line 34). There is no disclosure that this bead of adhesive acts as a seal in Ritchie. Second, the purpose of this adhesive 70 is to secure an outer skin member 12 of a door to an intermediate shell 16. As such, the adhesive 70 is provided at an entirely different location on a door than appellant's seal as defined in claim 38. Thus, there is no motivation or suggestion to modify Herringshaw with Ritchie in the manner suggested by the examiner.

The examiner nevertheless argues that the motivation to make this modification would be to "improve the durability of the door," as is stated at col. 4, lines 63-64 of Ritchie. There are no apparent durability deficiencies in carrier 32 of Herringshaw that could be remedied by applying the teachings of Ritchie, so there would be no reason for one of ordinary skill in the art to look to

Ritchie. The examiner's argument appears to be based purely on hindsight analysis of the prior art.

Nevertheless, even if one of ordinary skill were to consider Ritchie, the relevant teaching would be to replace the outer skin fasteners 262 of Herringshaw with the adhesive 70 of Ritchie to secure door panel members together. There is no teaching in Ritchie that the adhesive can be used for sealing of a carrier relative to the inner panel.

Finally, even if one of ordinary skill in the art were, for reasons unknown, to attempt to apply adhesive to that portion of carrier 12 of Herringshaw identified by the examiner, the application would achieve nothing – neither a seal nor an adhesive connection -because there is no corresponding part of the inner panel 18 in the vicinity for the adhesive to adhere to. Thus, even after combining the disclosures of three references, not all features of claim 38 are disclosed.

Appellant respectfully asserts that the rejection of claim 38 under 35 U.S.C. 103(a) is improper, and requests that the rejection be reversed.

Claim 39

Claim 39 recites that the plate and the inner door panel provide a substantially watertight seal between the exterior side and the interior side of the inner door panel.

The examiner argues that it would be obvious to provide Herringshaw with a seal 70 as taught by Ritchie to improve the durability of the door. Appellant disagrees. For the reasons set forth above with regard to claim 38, there is no support in Ritchie for the examiner's assertion.

Furthermore, there is no teaching in Ritchie that adhesive 70 of Ritchie provides a watertight seal, and even if there was such a teaching, the location of the examiner's "seal" as disclosed by Ritchie would be between a door outer skin member and an intermediate shell, and not between a plate of a carrier to an inner panel.

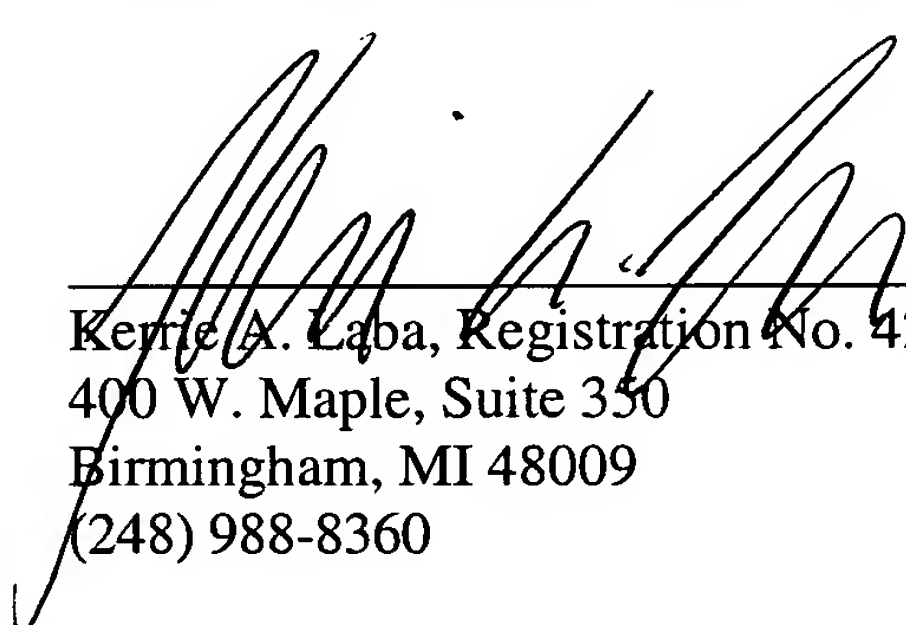
Thus, appellant respectfully asserts that the rejection of claim 39 is improper and requests that the rejection be reversed.

CONCLUSION

For the reasons set forth above, the rejection of all claims is improper and should be reversed. Appellant earnestly requests such an action.

Respectfully submitted,

CARLSON, GASKEY & OLDS

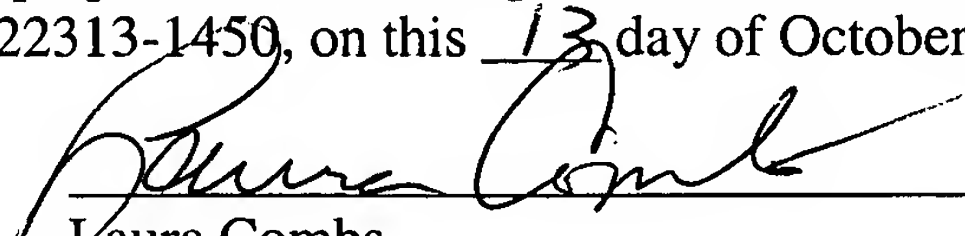


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Dated: October 13, 2005

CERTIFICATE OF MAIL

I hereby certify that the enclosed Appeal Brief is being deposited with the United States Postal Service as First Class Mail, postage prepaid, in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 13 day of October, 2005.



Laura Combs

CLAIMS APPENDIX

20. A cable arrangement assembly for a vehicle comprising:
- a carrier for a cable, said carrier having a first side and a second side opposed thereto, and said carrier having a first elongate member and a second elongate member, said first elongate member transverse to said second elongate member;
 - a first cable guide and a second cable guide mounted to said first elongate member;
 - a third cable guide and a fourth cable guide mounted to said second elongate member;
 - a first guide rail spaced generally parallel to a second guide rail, said first guide rail and said second guide rail mountable to said carrier on the first side to guide a window; and
 - wherein said carrier has a plate mounting a drive for the window, the drive being mounted to the second side of the carrier, said plate having a seal.
21. The cable arrangement assembly of Claim 20 wherein said seal extends around said drive.
22. The cable arrangement assembly of Claim 21 wherein said drive comprises a motor.
23. The cable arrangement assembly of Claim 20 wherein said seal is sized larger than an aperture of an inner door panel for receiving said drive.

24. The cable arrangement assembly of Claim 20 wherein said cable is guided by each of said first cable guide, said second cable guide, said third cable guide and said fourth cable guide.

25. The cable arrangement assembly of Claim 24 wherein said cable has a window cursor for attaching the window to said cable.

26. The cable arrangement assembly of Claim 24 wherein said first elongate member has a first end portion and a second end portion and said second elongate member has a third end portion and a fourth end portion, said first cable guide mounted to said first end portion, said second cable guide mounted to said second end portion, said third cable guide mounted to said third end portion, and said fourth cable guide mounted to said fourth end portion.

27. The cable arrangement assembly of Claim 26 wherein said cable defines a first cable path from said first end portion to said second end portion of said first elongate member and a second cable path from said third end portion to said fourth end portion of said second elongate member.

28. The cable arrangement assembly of Claim 27 wherein said cable defines a third cable path from said first end portion of said first elongate member to said third end portion of said second elongate member and a fourth cable path from said second end portion of said first elongate member to said fourth end portion of said second elongate member.

29. The cable arrangement assembly of Claim 20 including a latch mounting plate for mounting a vehicle door latch on said carrier.
30. The cable arrangement assembly of Claim 20 including a door handle mounting plate for mounting a vehicle door handle on said carrier.
31. The cable arrangement assembly of Claim 20 wherein at least one of said first elongate member and said second elongate member has a u-shaped cross-section.
32. The cable arrangement assembly of Claim 20 wherein the window is supported by said carrier.
33. The cable arrangement assembly of claim 20 wherein said seal is mounted on the second face of said carrier.

38. A vehicle door module comprising:

an inner door panel having a window frame, said inner door panel having an interior side for facing an interior of a vehicle and an exterior side for facing an exterior of the vehicle;

a carrier for a cable for supporting a window in the window frame, said carrier having a first elongate member and a second elongate member, said first elongate member transverse to said second elongate member;

a first cable guide and a second cable guide both mounted to said first elongate member;

a third cable guide and a fourth cable guide both mounted to said second elongate member;

a first guide rail spaced generally parallel to a second guide rail, said first guide rail and said second guide rail mountable to said carrier and for guiding the window; and

wherein said carrier has a plate for mounting a drive for the window, said plate having a seal spaced between said carrier and said exterior side of said inner door panel.

39. The vehicle door module of claim 38 wherein said plate and said inner door panel provide a substantially watertight seal between said exterior side and said interior side of said inner door panel.

40. The cable arrangement assembly of claim 21 wherein said seal substantially prevents liquid from passing from the first side to the second side of the carrier about said plate.

EVIDENCE APPENDIX

None

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60,130-1304; 00MRA0192

RELATED PROCEEDINGS APPENDIX

None